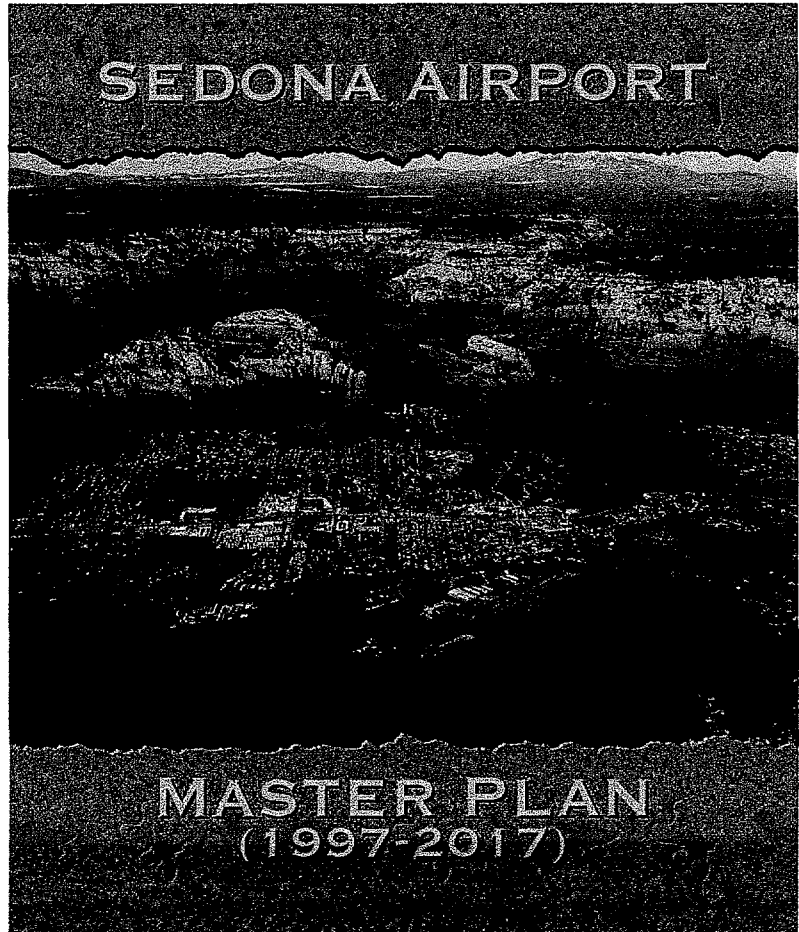


SEDONA AIRPORT



MASTER PLAN
(1997-2017)

ENVIRONMENTAL EVALUATION

Chapter 6

ENVIRONMENTAL EVALUATION

6.1 INTRODUCTION

The purpose of this environmental evaluation is to identify any potential adverse environmental impacts related to the continued operation, maintenance, and improvement of the Sedona Airport as set forth in the 1997 Airport Master Plan Update. In accordance with FAA guidelines, this environmental evaluation considers twenty specific impact categories, ranging from noise to construction impacts. These categories have been adapted from FAA Order 5050.4A, the Airport Environmental Handbook (FAA, 1985). These subjects must be addressed in any project that involves any of the following:

- Airport location;
- New runway;
- Major runway extension;
- Runway strengthening creating specific noise conditions within specified boundaries;
- Major change of entrance or access roads;
- Land acquisition;
- Establishment or relocation of an instrument landing system, or an approach lighting system; or
- Development involving historic sites, Section 4(f) lands, farmland, wetlands, coastal zones, floodplains, or endangered or threatened species.

Within the term of the updated Master Plan, the following improvements to the Sedona Airport are tentatively scheduled to occur:

- Resurface runway 3-21
- Install non-precision approach markers
- Expand Apron A
- Re-mark aircraft tiedowns
- Improve and extend roadway circulation
- Improve and expand automobile parking area
- Expand water storage capacity (add 100,000 gal. tank)
- Install sewer treatment plant
- Install 48 additional hangars
- Expand taxilanes
- Install additional fencing at taxilane entries, hangars, terminal, and helicopter/FBO area
- Install aircraft wash rack and waste oil disposal
- Expand terminal
- Upgrade Aircraft Rescue Fire Fighting equipment
- Replace airport maintenance equipment
- Additional land acquisition of 11.2 acres (west side) inside current perimeter fence.

Since the updated Master Plan proposes land acquisition to resolve the property boundary discrepancy outlined in Chapters 2 and 4, further environmental analysis is required.

6.2 ENVIRONMENTAL EVALUATION CATEGORIES

6.2.1 Noise

Noise is expressed as the Day-Night Average Sound Level, or DNL (formerly referred to as Ldn). DNL is the national standard accepted by the FAA for describing cumulative noise exposure and identifying noise/land use compatibility issues. DNL is the average noise level in decibels (dB) over a full 24-hour period. DNL contours do not represent actual noise conditions present on any specific day or absolute boundaries of acceptability in personal response to noise.

According to FAA Order 5050.4A (Airport Environmental Handbook, p. 28), no noise analysis is needed for proposals involving Design Group I and II airplanes on utility or transport type airports whose forecast operations in the period covered by the environmental assessment do not exceed 90,000 adjusted propeller operations or 700 annual adjusted jet operations. These numbers of propeller aircraft operations typically result in cumulative noise levels which do not exceed 60 yearly day-night average sound levels (DNL) more than 5,500 feet from start of takeoff roll or 65 DNL on the runway itself.

Although Sedona Airport is not projected to reach the operational thresholds requiring noise analysis with their Design Group I and II activity totaling 66,090 annual operations by the year 2017, a noise analysis was conducted for this study. This analysis included the identification of the 55, 60, 65, and 75 DNL noise contours for the existing (1997) and ultimate (2017) conditions. The results of this analysis are described in the following Compatible Land Use section, and illustrated in Chapter 7, Airport Plans. See Appendix B, Environmental section, for the noise-modeling echo report (input file).

6.2.2 Compatible Land Use

The compatibility of existing and planned land uses in the vicinity of an airport is generally associated with the level of noise impact related to the airport. The FAA has developed guidelines for land-use compatibility based on noise levels and the nature of the land use being impacted. Commercial, industrial, and most public uses are considered compatible with airport operations, as long as they are consistent with performance standards of Federal Aviation Regulation (FAR) Part 77 relative to height and safety. Residential use is compatible in areas with less than 65 DNL noise. **Table 6-1** demonstrates land use compatibility with yearly day-night average sound levels (DNL).

Land Use Compatibility with Yearly Day-Night Average Sound Levels

Table 6-1

Land Use	Yearly Day-Night Average Sound Level (DNL) in Decibels					
	Below 65	65-70	70-75	75-80	80-85	Over 85
Residential						
Residential, other than mobile homes & transient lodgings	Y	N(1)	N(1)	N	N	N
Mobile Home Parks	Y	N	N	N	N	N
Transient Lodgings	Y	N(1)	N(1)	N(1)	N	N
Public Use						
Schools	Y	N(1)	N(1)	N	N	N
Hospitals and Nursing Homes	Y	25	30	N	N	N
Churches, Auditoriums, Concert Halls	Y	25	30	N	N	N
Governmental Services	Y	Y	25	30	N	N
Transportation	Y	Y	Y(2)	Y(3)	Y(4)	Y(4)
Parking	Y	Y	Y(2)	Y(3)	Y(4)	N
Commercial Use						
Offices, Business & Professional	Y	Y	25	30	N	N
Wholesale & Retail—Building Materials, Hardware, Farm Equipment	Y	Y	Y(2)	Y(3)	Y(4)	N
Retail Trade—General	Y	Y	25	30	N	N
Utilities	Y	Y	Y(2)	Y(3)	Y(4)	N
Communication	Y	Y	25	30	N	N
Manufacturing and Production						
General Manufacturing	Y	Y	Y(2)	Y(3)	Y(4)	N
Photographic & Optical	Y	Y	25	30	N	N
Agriculture (except livestock) & Forestry	Y	Y(6)	Y(7)	Y(8)	Y(8)	Y(8)
Livestock Farming & Breeding	Y	Y(6)	Y(7)	N	N	N
Mining & Fishing, Resource Production & Extraction	Y	Y	Y	Y	Y	Y
Recreational						
Outdoor Sports Arenas, Spectator Sports	Y	Y(5)	Y(5)	N	N	N
Outdoor Music Shells, Amphitheaters	Y	N	N	N	N	N
Nature Exhibits & Zoos	Y	Y	N	N	N	N
Amusements, Parks, Resorts, Camps	Y	Y	Y	N	N	N
Golf Courses, Riding Stables, Water Recreation	Y	Y	25	30	N	N

Note: Refer to Table 6-1 (Continued) for legend definitions.

Land Use Compatibility with Yearly Day-Night Average Sound Levels

Table 6-1 (Continued)

Y (Yes)	Land use and related structures compatible without restrictions.
N (No)	Land use and related structures are not compatible and should be prohibited.
NLR	Noise Level Reduction (outdoor to indoor) to be achieved through incorporation of noise attenuation into design and construction of the structure.
25, 30, or 35	Land uses and structures generally compatible; measures to achieve NLR or 25, 30, or 35 dB must be incorporated into design and construction of the structure.
Notes:	
1.	Where the community determines that residential uses must be allowed, measures to achieve outdoor to indoor Noise Level Reduction (NLR) of at least 25 dB and 30 dB should be incorporated into building codes and be considered in individual approvals. Normal residential construction can be expected to provide a NLR of 20 dB; thus, the reduction requirements are often stated as 5, 10, or 15 dB over standard construction and normally assume mechanical ventilation and closed windows year-round. However, the use of NLR criteria will not eliminate outdoor noise problems.
2.	Measures to achieve NLR of 25 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office area, noise sensitive area, or where the normal noise level is low.
3.	Measures to achieve NLR of 30 dB must be incorporated into the design and construction of portions of these building where the public is received, office areas, noise sensitive area, or where the normal noise level is low.
4.	Measures to achieve NLR of 35 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas, or where the normal noise level is low.
5.	Land use compatible, provided special sound reinforcement systems are installed.
6.	Residential buildings require an NLR of 25.
7.	Residential buildings require an NLR of 30.
8.	Residential buildings not permitted.

Source: Federal Aviation Regulations, Part 150, Airport Noise Compatibility Planning, dated January 18, 1985.

The Sedona Airport is sited on Table Top Mountain at an elevation of 4,827 feet above mean sea level. The airport facilities share the Table Top Mountain site with four non-aeronautical land uses to include: Sky Ranch Lodge; the Masonic Temple; the Yavapai County Sheriff; and a scenic overlook. No other non-airport related activities are present on the site or within the airport boundaries. The single runway of the Sedona Airport (03-21) is oriented southwest-northeast. Airplanes approaching from or departing to the southwest (Runway 03 end) fly over some scattered residential developments. Airplanes approaching or departing from the northeast (Runway 21 end) fly over residential and commercial developments, which border the south side of U.S. Highway 89A between the airport boundary and the intersection of Highway 89A and State Route 179. The closest residential development to the airport is located in Grasshopper Flats, approximately 1000 feet north of Runway 21 end. The Sedona School is also located within this area.

Currently, the land uses adjacent to the Sedona Airport are compatible with airport operations. The existing (1997) 65 DNL contour (see Chapter 7, Airport Plans) lies within the airport boundary off the Runway 21 end. However, the contour extends approximately one mile off the Runway 3 end, outside the airport boundary, but primarily over U.S. Forest land. While the 2017 contours increase, the 65 DNL generally remains on airport property off the Runway 21 end and lies 1-1/4 mile off the Runway 3 end. An exhibit illustrating these contours is presented in Chapter 7, Airport Plans. Appendix B's Environmental section includes an exhibit illustrating the flight tracks used for the noise modeling effort.

6.2.3 Social Impacts

The continued operation of the Sedona Airport under the updated Master Plan is anticipated to extend and expand these economic benefits to the community in addition to the continuation of the availability of air access to the Sedona area for private and corporate aircraft.

The airport access road and entrance, designed to accommodate the continued use of the scenic overlook will not alter surface transportation patterns. There will be no adverse social impact resulting from modification of the airport entrance, access roads, and parking facilities.

The continued operation of the Sedona Airport under the updated Master Plan and the proposed improvements it contains will not require relocation of residences or businesses. The proposed modifications to intra-airport circulation, parking, and access roads will improve access to airport facilities but they will not alter surface transportation patterns outside of the airport property. No adverse social impacts or community disruptions are anticipated.

An Economic Benefit Study was conducted for the Sedona Airport in 1998 by Lee McPheters of the Arizona State University College of Business. The Study findings indicate that the Sedona Airport, its administration and capital projects, and its eleven existing on-site businesses created \$4.8 million in gross revenues, \$1 million in earnings, and 76 on-airport jobs. See Appendix B, Financial section, for a copy of the Study report.

6.2.4 Induced Socioeconomic Impacts

This category refers to impacts such as shifts in business and economic activity, demands on public services, or patterns of population growth associated with major airport development proposals.

Under the updated Master Plan, there are no plans for major development of the Sedona Airport. The plan does set aside undeveloped and under-utilized areas within the airport property for future development to accommodate anticipated increases in airport traffic. It is not anticipated that development of the areas within the airport reserved for facilities to accommodate the anticipated air traffic increases will result in significant shifts in business and economic activity within the Sedona area.

The development of the reserved areas is not anticipated to result in significantly increased demands on public services nor stimulate or alter patterns of population growth. There will be no adverse induced socioeconomic impacts resulting from the operation of the Sedona Airport under the updated Master Plan. Continued airport operations will maintain the availability of air access to the community.

6.2.5 Air Quality

National Ambient Air Quality Standards (NAAQS) have been established by the Environmental Protection Agency (EPA) for seven criteria pollutants: carbon monoxide, lead, nitrogen dioxide, ozone, PM_{2.5}, PM₁₀ and sulfur dioxide. For each of these (except carbon monoxide), the EPA has adopted Primary standards to protect public health and Secondary standards to protect public welfare. Each state must adopt standards at least as strict as the federal standards. The standards adopted by Arizona are the same as those utilized by EPA. The Sedona Airport is located within an area that complies with all NAAQ Standards.

Arizona does not have indirect source review (ISR) requirements. Because the Sedona Airport has less than 180,000 operations forecast annually, it is not subject to air quality analysis (FAA Order 5050.4A, Airport Environmental Handbook, p. 33). No adverse impacts to air quality are anticipated to result from the continued operation of the Sedona Airport under the updated Master Plan.

6.2.6 Water Quality

Drainage from the surface of the Sedona Airport flows primarily toward the southwest where it enters various washes and Carroll Canyon, which are tributaries to Oak Creek.

Normal contaminants from airport operations are petroleum products. Fueling facilities at the Sedona Airport are owned and operated by the Sedona Airport Administration and consist of two above-ground fuel storage tanks of 10,000 gallon capacity, each. One tank contains Jet A fuel and the other tank contains AVGAS. There are no plans for the expansion, relocation, or removal of the fuel storage system within the term of the updated Master Plan.

Canyon Mesa Aviation is currently the only fixed base operator (FBO) that provides aircraft maintenance services at the Sedona Airport. Waste petroleum from servicing of aircraft is collected and disposed of by Canyon Mesa Aviation.

The updated Master Plan provides for the installation of an aircraft wash rack and oil reclamation facility. The design for these facilities must include features for the collection and storage of wastewater and waste oil that will prevent contamination of surface and groundwater from this potential source. It is important that the installation of any facilities designed to collect and store waste, including underground tanks, be properly permitted with the Arizona Department of Environmental Quality.

6.2.7 Special Land Uses, Dot Section 4(F)

Section 4(f) of the Department of Transportation (DOT) Act specifies that no project will be approved that requires use of any publicly owned land from a park, recreation area, or wildlife refuge. The proposed development contained in the updated Master Plan does not require the use of any publicly owned land from a park, recreation area, or wildlife refuge.

The Sedona office of the U.S. Forest Service of the Department of Agriculture was contacted for comments regarding the updated Master Plan. The letters to this agency is contained in the Environmental section of Appendix B.

No adverse impacts to special use or Section 4(f) lands are anticipated from the continued operation of the Sedona Airport under the updated Master Plan.

6.2.8 Cultural Resources

Research was conducted at the State Historic Preservation Office (SHPO) for information regarding the proposed improvements. In addition, a records search was conducted at the Arizona State Museum for information regarding significant cultural resources in or near the project area. No evidence was found that the project area had ever been surveyed for cultural resources. In the future, if surface disturbance is planned for previously undisturbed ground, a cultural resource survey will be required under the National Historic Preservation Act.

6.2.9 Biotic Communities

The Sedona Airport is located on Table Top Mountain and the airport property occupies nearly the entire accessible and developable surface on the mountain. The land at the base of the mountain to the north, east, and south of the airport is developed for residential and commercial use. The surface topography west of Table Top Mountain and the airport is dominated by Carroll Canyon and is less favorable for development in close proximity to the airport.

The updated Master Plan contains no elements that will require the disturbance of undeveloped land currently outside of the Sedona Airport boundaries. Areas within the airport boundaries where development is planned have been cleared and disturbed in conjunction with the initial development of the airport property. No adverse impacts to the surrounding biotic communities are anticipated to result from the continued operation of the Sedona Airport under the updated Master Plan.

6.2.10 Threatened and Endangered Species

The U.S. Fish & Wildlife Service (USFWS) Threatened and Endangered Species Lists for Yavapai and Coconino Counties, Arizona (Appendix B, Environmental section) were reviewed and the Arizona Game & Fish Department (AG&FD) was contacted for information regarding threatened, endangered, candidate, or special status species in the project (see Appendix B, Environmental section). Although there are a number of Threatened or Endangered species that occur in the county, indicators are that habitat utilized by these species is not contained within the boundaries of the Sedona Airport. No adverse impacts to Threatened or Endangered Species or habitat are anticipated to result from the continued operation of the Sedona Airport under the updated Master Plan.

6.2.11 Wetlands

No wetlands are located within or adjacent to the Sedona Airport. There will be no impacts to wetlands resulting from the continued operation of the airport under the Master Plan.

6.2.12 Floodplains

Sedona Airport is sited on the top of Table Top Mountain at an elevation of approximately 4,780 feet. It is not located within or adjacent to a floodplain. Continued operation of the Sedona Airport will not indirectly support secondary development within a floodplain. There will be no floodplain impacts resulting from the continued operation of the Sedona Airport under the updated Master Plan.

6.2.13 Shoreline Management

The vicinity of Sedona is not covered by a shoreline management program; thus, evaluation under this category is not applicable.

6.2.14 Coastal Barriers

This impact category refers exclusively to islands on the Atlantic and Gulf coasts; thus, it is not applicable to the Sedona Airport.

6.2.15 Wild and Scenic Rivers

There are no wild or scenic rivers in the vicinity of the Sedona Airport which could be impacted by its continued operation or any future modification or expansion.

6.2.16 Farmland

The Farmland Protection Policy Act (FPPA) directs federal agencies to take into account the adverse effects of federal programs on the preservation of Prime or Unique Farmland. The Act protects such farmland from being converted, directly or indirectly, to nonagricultural uses. No farmland adjoins the Sedona Airport. No adverse impacts to prime or unique farmland will occur as a result of the continued operation of the Sedona Airport under the updated Master Plan.

6.2.17 Energy Supply and Natural Resources

The updated Master Plan for the Sedona Airport provides for the expansion of airport facilities in response to demands which do not currently exist but which may arise either within the short-term planning period of 20 years or the long-term period of 50 years. The provisions set aside areas within the airport for the construction of additional general aviation facilities, FBO corporate facilities, and FBO helicopter facilities. There are no firm plans or schedules to expand or construct any of these facilities. When, and if, demands for these facilities are presented, the impacts of their construction with respect to energy and natural resources availability will need to be addressed. Currently, there is no demand for these facilities and the continued operation of the Sedona Airport under the updated Master Plan will have no adverse impacts on energy supply or natural resources.

6.2.18 Light Emissions

The runway (3-21) at the Sedona Airport is lighted by a medium intensity runway lighting (MIRL) system. Runway 3 has Runway End Identifier Lights (REILs). The Sedona Airport's taxiways are not lighted but delineators are located at the taxiway exits. There are no provisions within the updated Master Plan for the establishment or relocation of an approach lighting system. No adverse impacts related to light emissions are anticipated as a result of the continued operation of the Sedona Airport under the updated Master Plan.

6.2.19 Solid Waste Impacts

The activity generated by the continued operation of the Sedona Airport is not expected to create an increase in solid waste sufficient to cause an adverse impact on disposal facilities. Potential impacts to the Sedona Airport's management of solid waste may result from expansion of the airport's facilities in response to future demands and the potential impacts should be assessed prior to facility expansion.

The FAA and EPA regulations indicate that solid waste sites should not be located within 5,000 feet of an airport utilized by smaller piston-engine aircraft nor within 10,000 feet for turbine-powered aircraft. No landfills have been identified within these distances from the Sedona Airport.

No impacts to solid waste handling and disposal are anticipated to result from the continued operation of the Sedona Airport under the updated Master Plan.

6.2.20 Construction

The improvements proposed to occur during the term of the updated Master Plan which are likely to have construction impacts are runway resurfacing, Apron A expansion, improvement and extension of airport roadways, improvement and expansion of automobile parking areas, addition of water storage capacity, construction of sewage treatment plant, addition of hangars, expansion of taxiways, wash rack and oil reclamation construction, and terminal expansion. It will be necessary to acquire all required permits from local, state, and Federal authorities prior to the commencement of construction of these improvements. Care shall be taken to minimize the potential adverse effects of construction activities. The provisions of Advisory Circular 150/5370-10 *Standards for Specifying Construction of Airports, (change 10), Item P 156 Temporary Air and Water Pollution, Soil Erosion, and Siltation Control* shall be incorporated in project specifications.

6.3 OTHER CONSIDERATIONS

The Sedona Airport is located in a community that is sensitive to potential adverse impacts to the surrounding environment. The updated Master Plan for the Sedona Airport contains plans for the expansion of airport facilities in response to projected demands from the general aviation and corporate aviation communities that currently utilize the airport. Elements of the Master Plan which are, or may become, subjects of controversy for Sedona and Yavapai County may require the preparation of Environmental Impact Statements which present alternatives and mitigation plans for development, which may be determined to have adverse environmental effects.